

CHAPTER 11

**RIGGING TOW MISSILES ON THE TYPE V AIRDROP PLATFORM**

Section I

**RIGGING M151A2, 1/4-TON TRUCK (MISSILE CARRIER)  
AND M416, 1/4-TON CARGO TRAILER WITH MISSILES  
FOR LOW-VELOCITY AIRDROP**

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**11-1. Description of Load**

The M151A2, 1/4-ton utility truck (missile carrier) with six encased missiles; the M416, 1/4-ton cargo trailer with seven boxed missiles; and an accompanying load are rigged on a 16-foot, type V platform. The accompanying load consists of six ammunition boxes that weigh a total of 660 pounds. The load is rigged with two G-11A or two G-11B cargo parachutes. This load can be airdropped from a C-130 or a C-141 aircraft.

**11-2. Preparing Platform**

Prepare a 16-foot, type V airdrop platform as described below.

**a. Assembling and Inspecting Platform.** Inspect, or assemble and inspect, a 16-foot, type V platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.

**b. Installing Tandem Links.** Install a tandem link on the front and rear of each rail as shown in Figure 11-1.

**c. Attaching and Numbering Clevises.** Bolt 28 tiedown clevises to the side rail bushings and tandem links according to TM 10-1670-268-20&P/TO 13C7-52-22. Number the clevises as shown in Figure 11-1.

**NOTES:**

1. The nose bumper may or may not be installed.
2. Measurements given in this section are from the front edge of the platform, NOT from the front edge of the nose bumper.

**11-3. Building and Placing Honeycomb Stacks**

Build the honeycomb stacks and place them on the platform as shown in Figure 11-2.

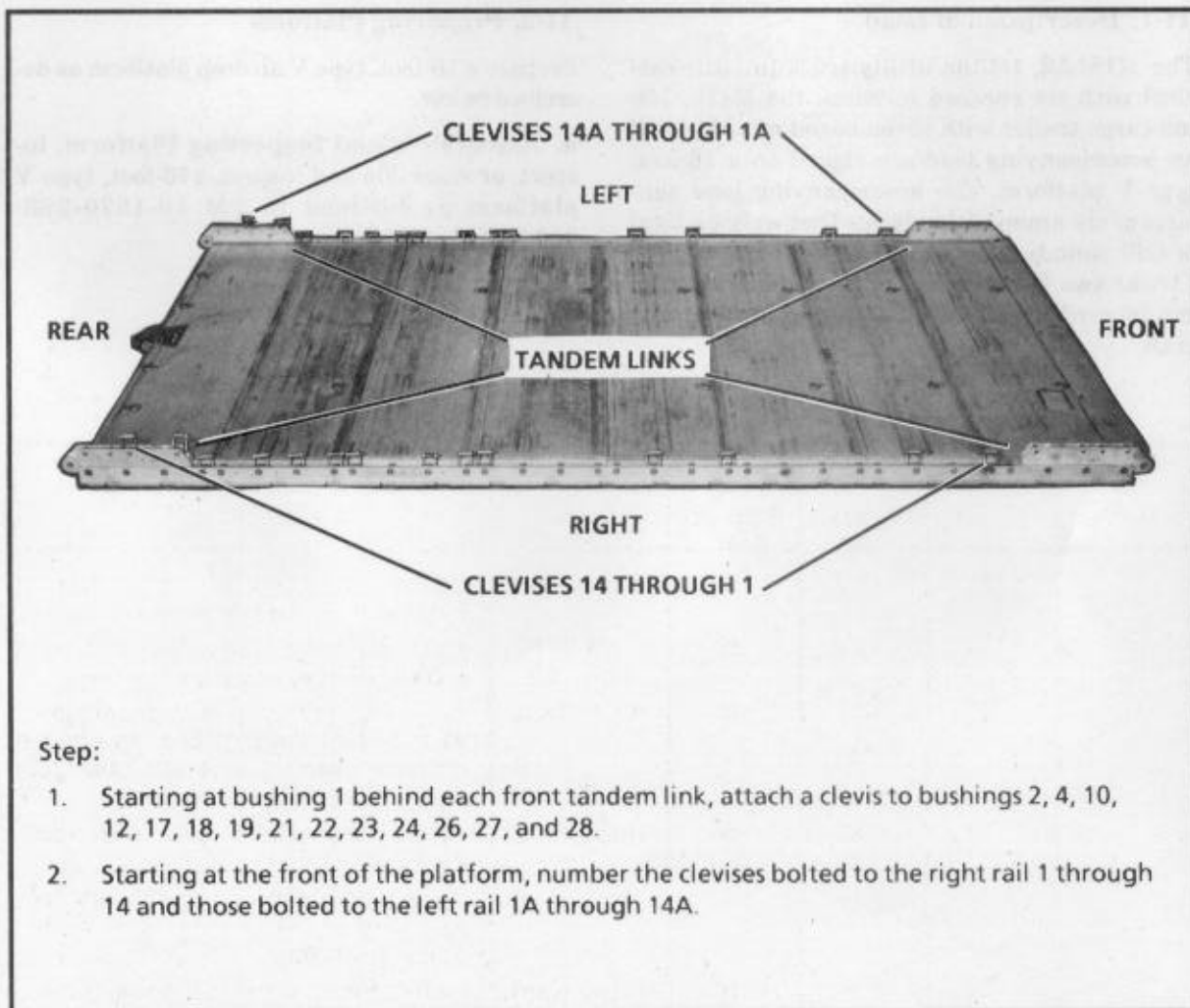
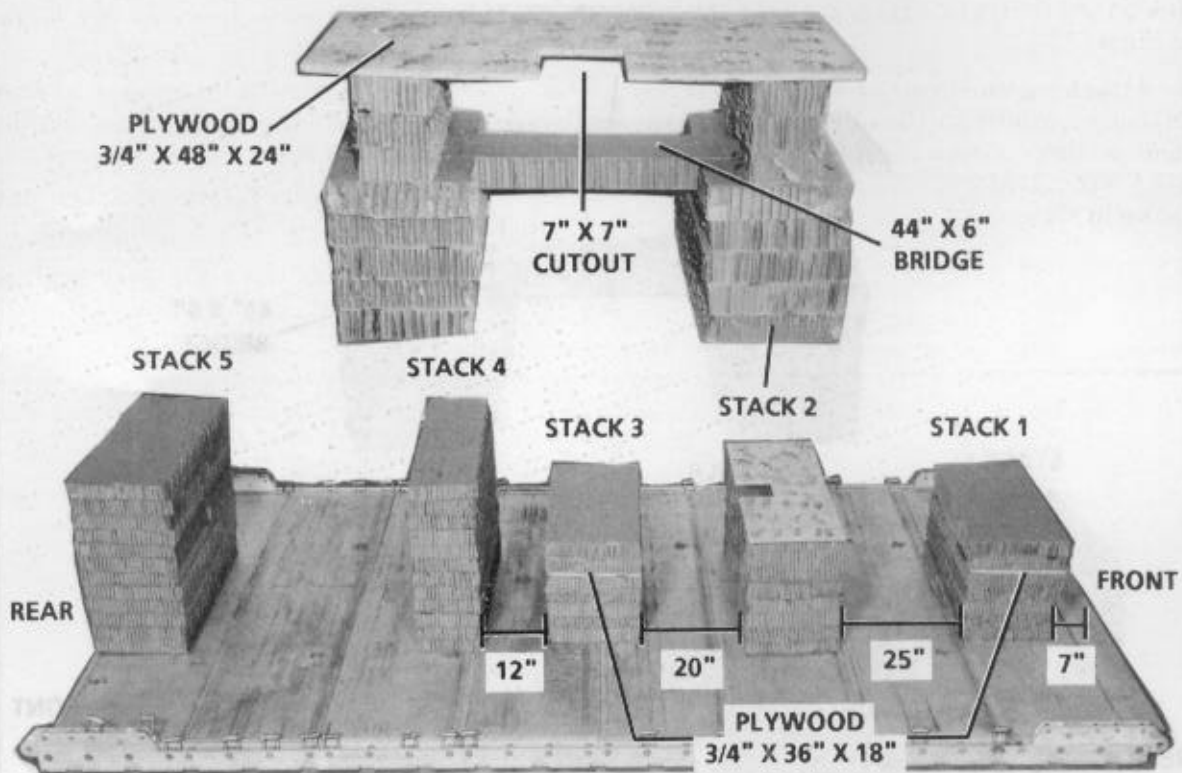


Figure 11-1. Platform prepared



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	7	36	18	Honeycomb	Center honeycomb on the platform 7 inches from the front edge.
	1	36	18	3/4-inch plywood	Place plywood under the second layer of honeycomb from the top.
2	8	12	18	Honeycomb	Place four pieces of honeycomb on each side of the platform an equal distance from the side rail and 25 inches from stack 1.
	1	44	6	Honeycomb	Center honeycomb over the side stacks as a bridge.
	4	12	6	Honeycomb	Place one piece of honeycomb to each side of the side stacks on each side of the bridge.
	6	6	18	Honeycomb	Center three pieces of honeycomb on each side of the stack.
	1	48	24	3/4-inch plywood	Place plywood on top of stack with a 7- by 7-inch cutout centered on the rear.

Figure 11-2. Honeycomb stacks prepared and positioned

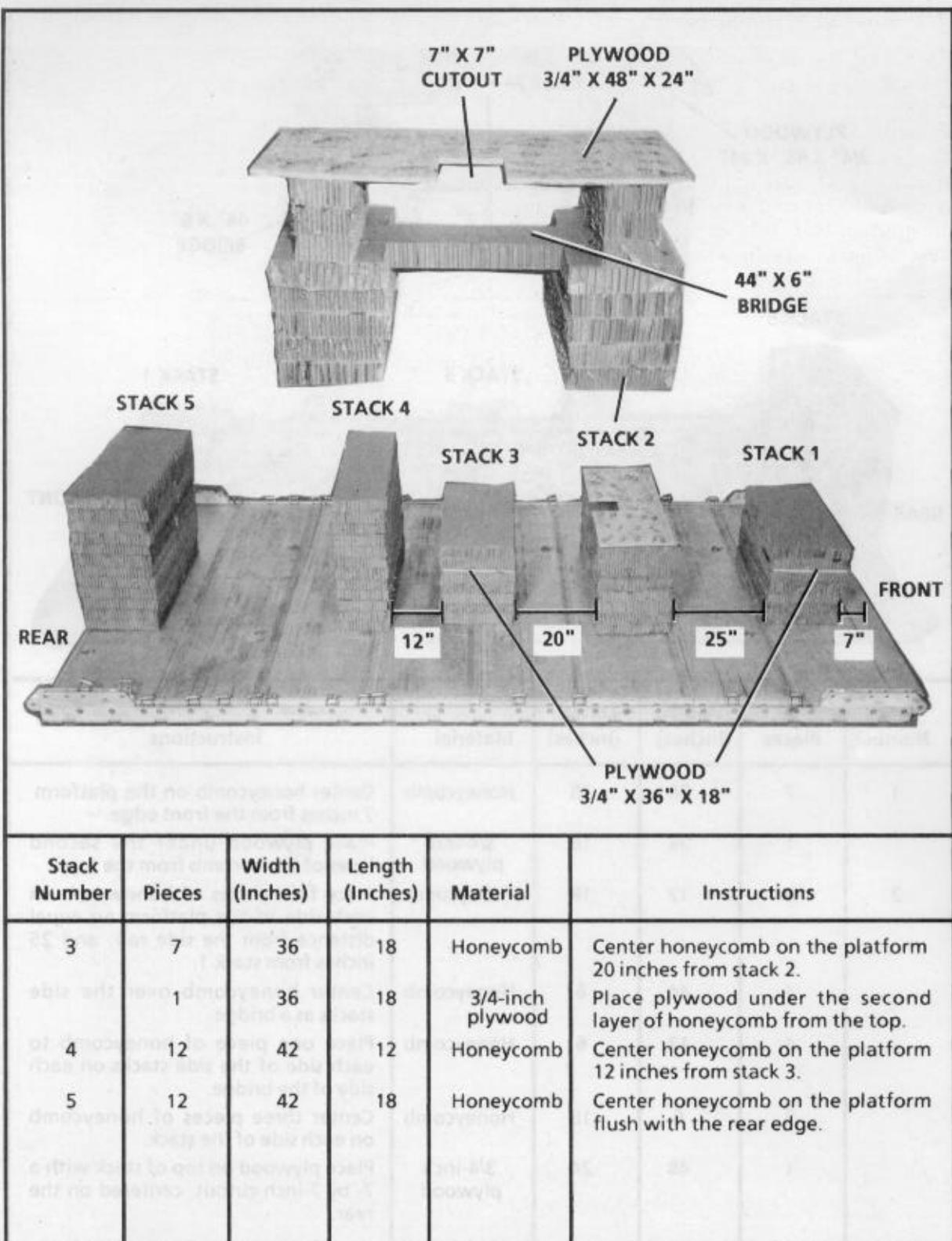


Figure 11-2. Honeycomb stacks prepared and positioned (continued)

#### 11-4. Stowing Accompanying Load

Make sure the accompanying load meets the size and weight requirements outlined in FM 10-500-2/TO 13C7-1-5. It must not be more than 18 inches high, 36 inches wide, and 40 inches long. The load must not weigh more than 690 pounds or less than 500 pounds. The accompanying load shown here consists of six boxes of ammunition that weigh a total of 660 pounds. Stow the load as shown in Figure 11-3.

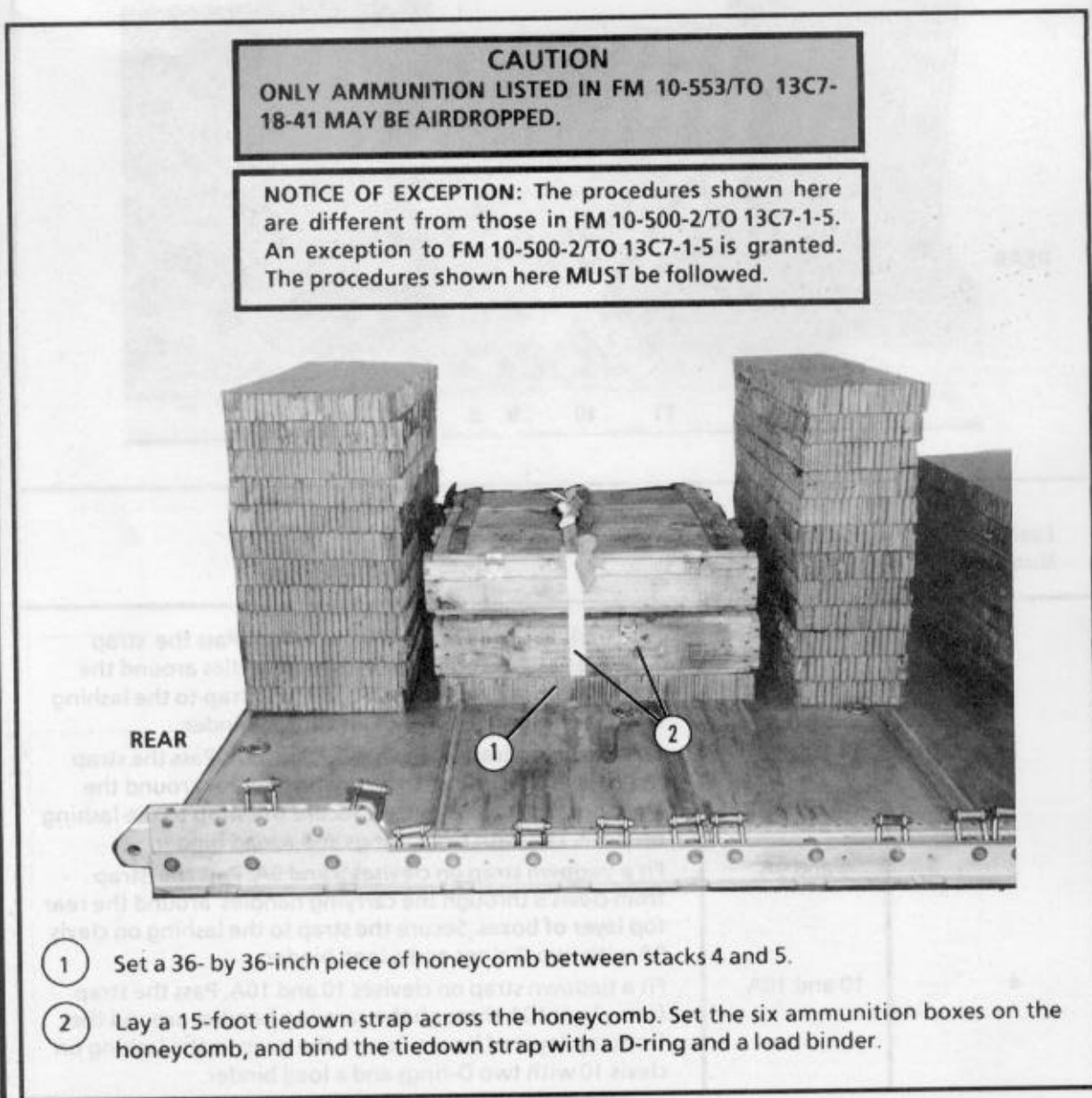
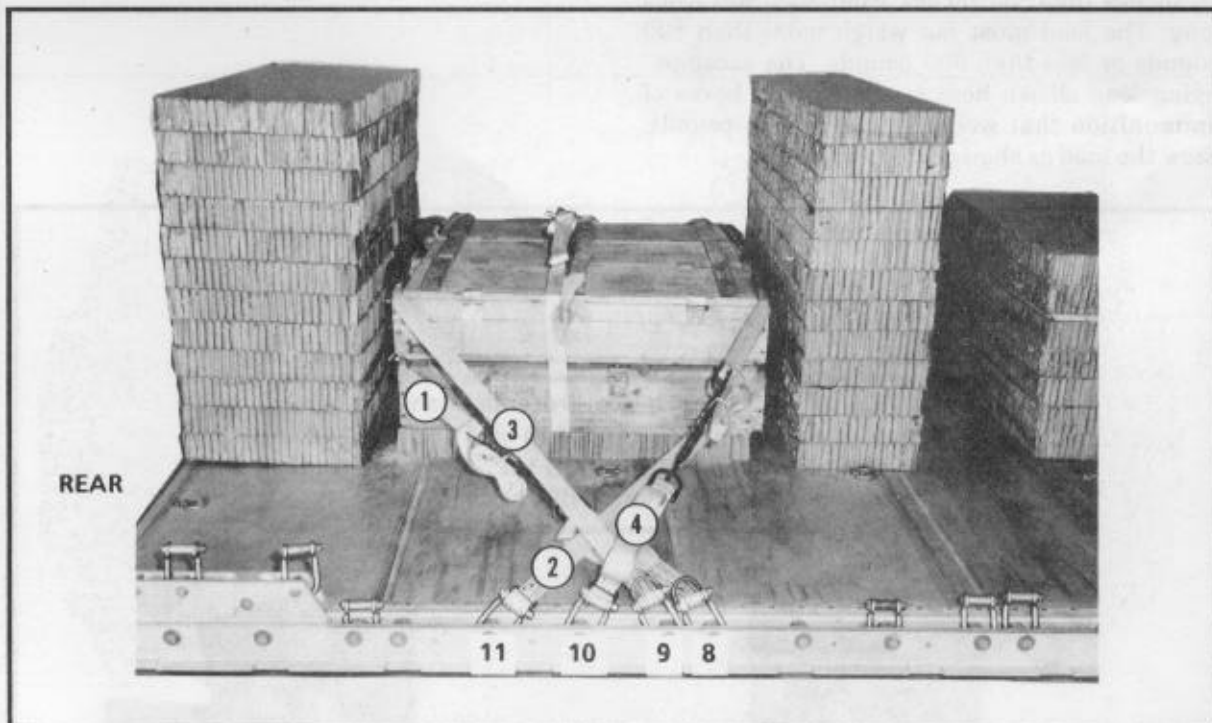


Figure 11-3. Accompanying load stowed

**11-5. Lashing Accompanying Load**

Lash the accompanying load to the platform with eight 15-foot tiedown straps as shown in Figure 11-4.



Lashing Number	Tiedown Clevis Number	Instructions
1	8 and 8A	Fit a tiedown strap on clevises 8 and 8A. Pass the strap from clevis 8A through the carrying handles around the rear bottom layer of boxes. Secure the strap to the lashing on clevis 8 with two D-rings and a load binder.
2	11 and 11A	Fit a tiedown strap on clevises 11 and 11A. Pass the strap from clevis 11 through the carrying handles around the front bottom layer of boxes. Secure the strap to the lashing on clevis 11A with two D-rings and a load binder.
3	9 and 9A	Fit a tiedown strap on clevises 9 and 9A. Pass the strap from clevis 9 through the carrying handles around the rear top layer of boxes. Secure the strap to the lashing on clevis 9A with two D-rings and a load binder.
4	10 and 10A	Fit a tiedown strap on clevises 10 and 10A. Pass the strap from clevis 10A through the carrying handles around the front top layer of boxes. Secure the strap to the lashing on clevis 10 with two D-rings and a load binder.

*Figure 11-4. Accompanying load lashed*



**11-6. Preparing Load**

Prepare the load as described below.

**a. Preparing the M151A2 Truck (Missile Carrier) With Missiles.** Prepare the truck as described in paragraph 9-19. Add a third layer

of 36- by 61-inch honeycomb to cover the missiles (step 1 of Figure 9-21).

**b. Preparing the M416 Trailer With Missiles.** Prepare the trailer as shown in Figure 11-5.

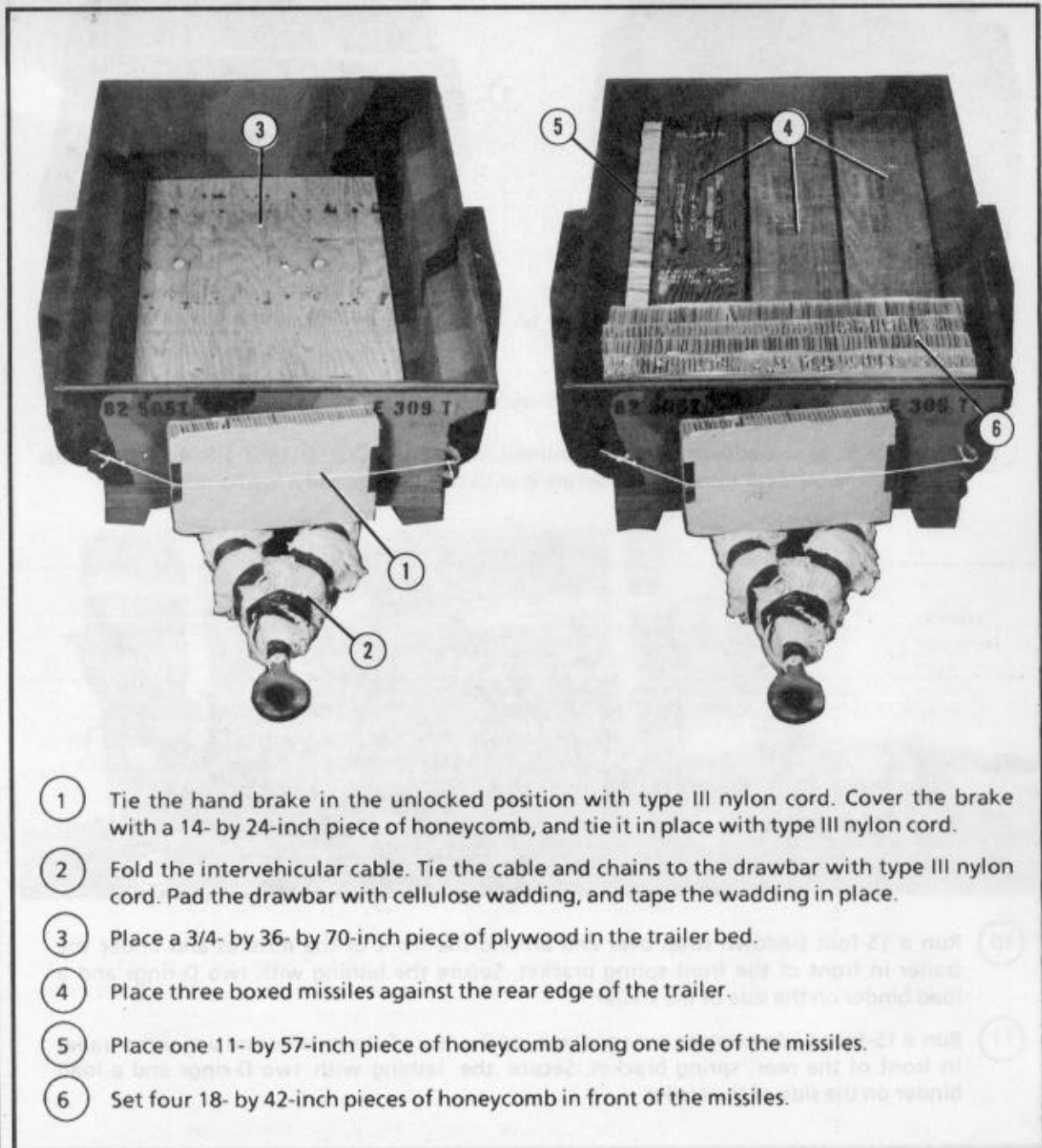
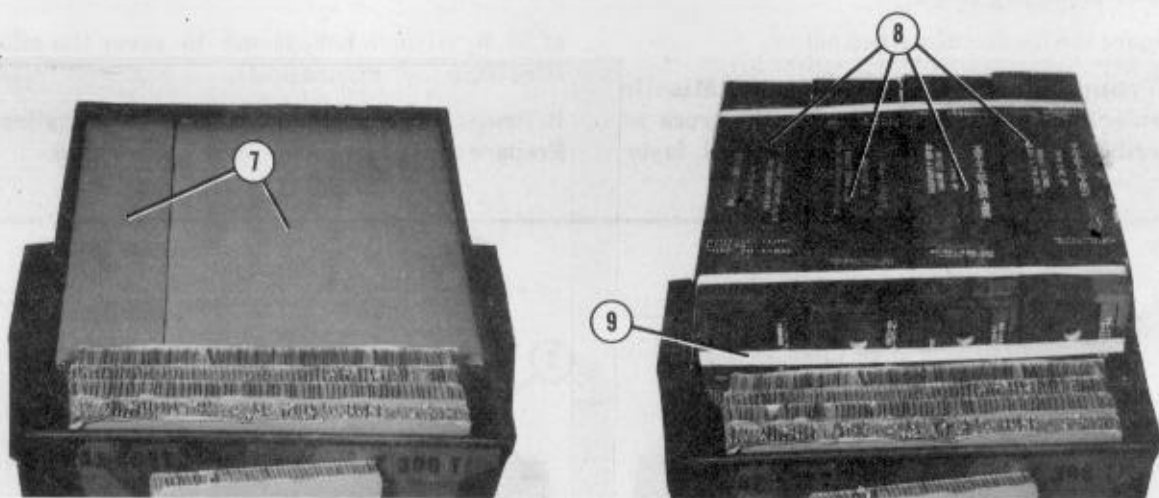
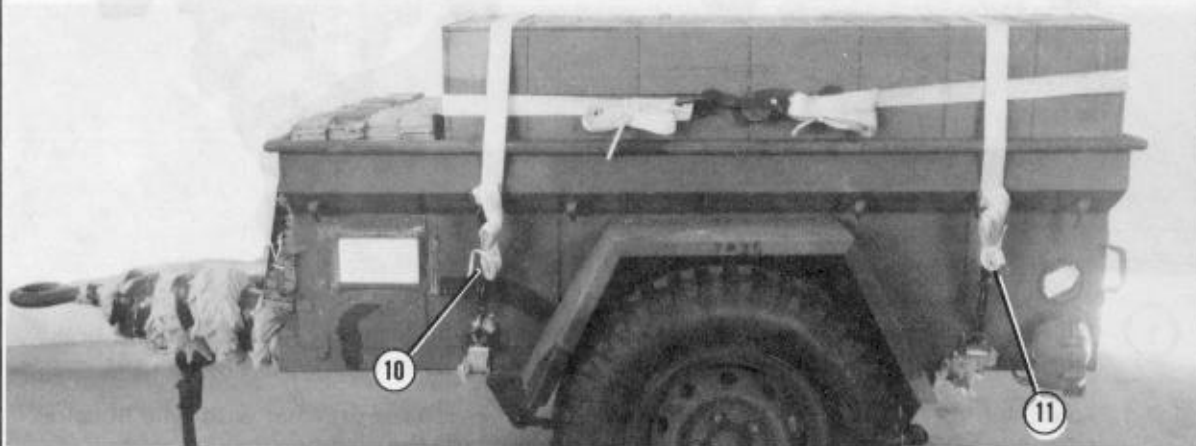


Figure 11-5. Trailer prepared



- 7 Place one 36- by 57-inch piece and one 12- by 57-inch piece of honeycomb on top of the missiles.
- 8 Set four boxed missiles on top of the honeycomb against the rear wall of the trailer.
- 9 Form a 30-foot tiedown strap as outlined in FM 10-500-2/TO 13C7-1-5. Run the strap around the top four missiles, and secure it with two D-rings and a load binder.



- 10 Run a 15-foot tiedown strap over and around the front of the missiles and under the trailer in front of the front spring bracket. Secure the lashing with two D-rings and a load binder on the side of the trailer.
- 11 Run a 15-foot tiedown strap over and around the rear of the missiles and under the trailer in front of the rear spring bracket. Secure the lashing with two D-rings and a load binder on the side of the trailer.

Figure 11-5. Trailer prepared (continued)



### 11-7. Positioning Load

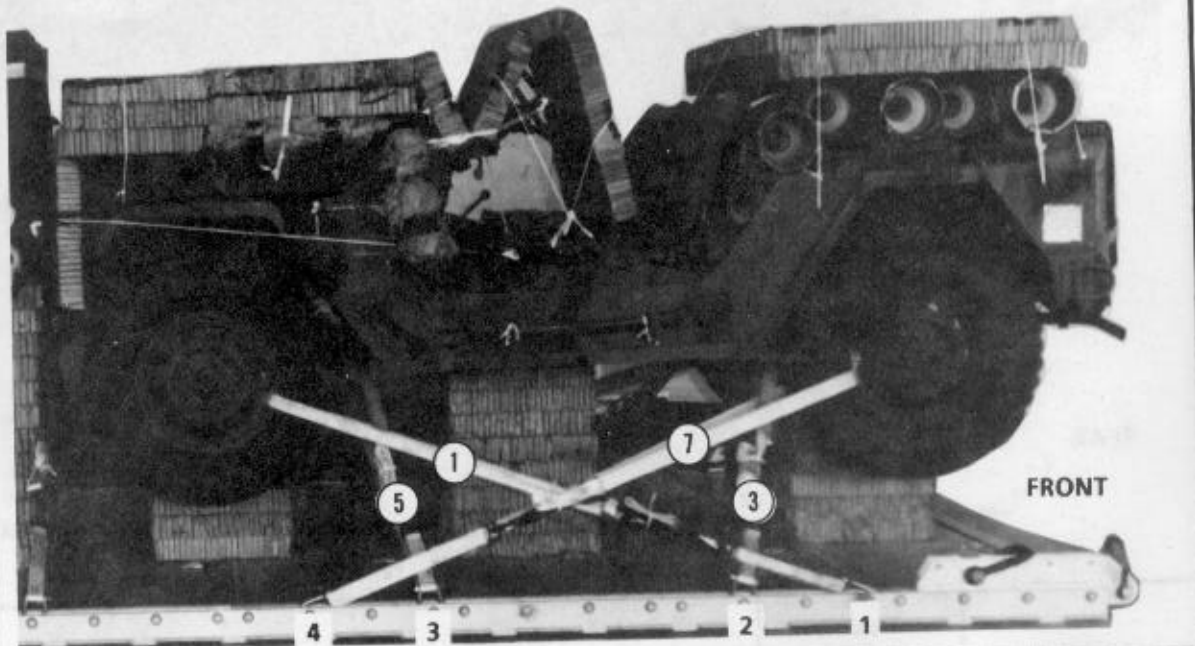
Attach a 12-foot (2-loop), type XXVI nylon sling to each wheel with a screw-pin clevis. Set the truck on the platform with its rear end overhanging the front of the platform by 14 inches. Attach a sling to each trailer handle (on each corner) to position it. Set the trailer on the platform with the lunette overhanging the rear of the platform by 33 inches.

Raise the trailer support leg, and tie it with type III nylon cord.

### 11-8. Lashing Load

Lash the truck and trailer to the platform with sixteen 15-foot tiedown assemblies as shown in Figures 11-6 and 11-7.

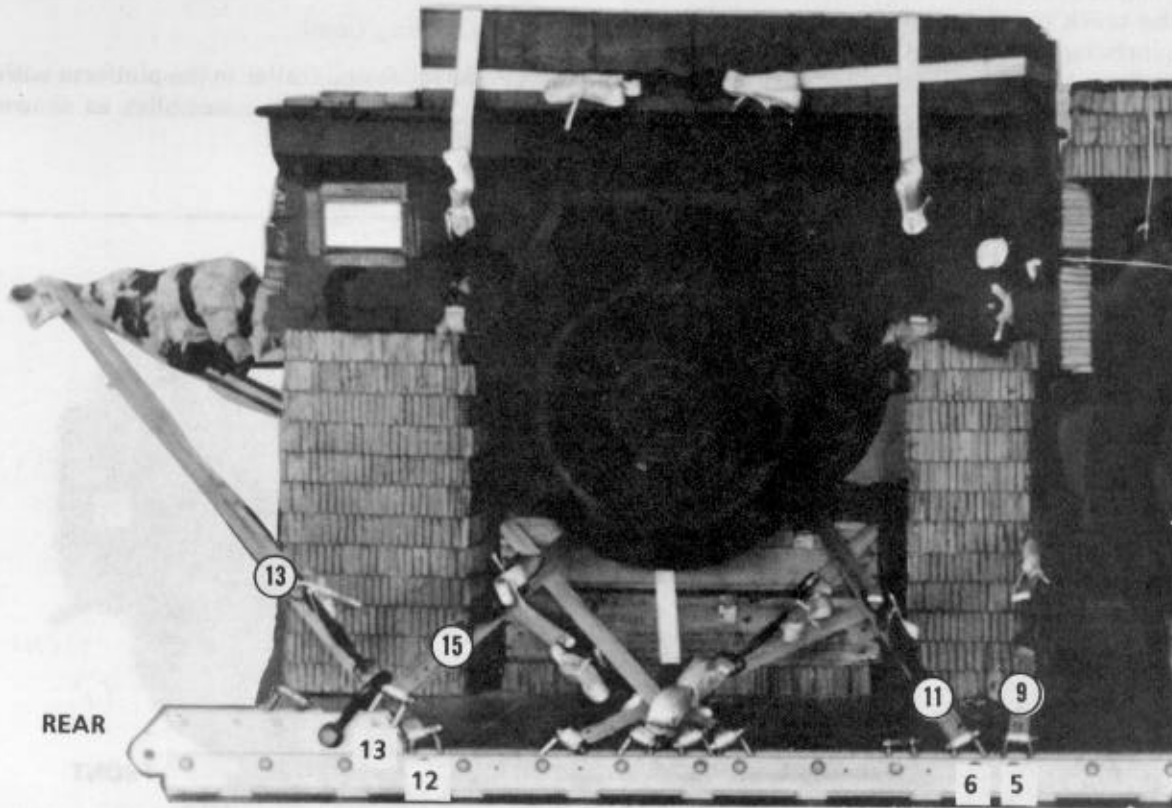
**NOTE:** Pad all sharp edges that may touch the lashings.



Lashing Number	Tiedown Clevis Number	Instructions
1	1	Pass lashing:
2	1A	Through left front wheel.
3	2	Through right front wheel.
4	2A	Around inner left rear suspension arm.
5	3	Around inner right rear suspension arm.
6	3A	Around left side of mainframe.
7	4	Around right side of mainframe.
8	4A	Through left rear wheel.
		Through right rear wheel.

Figure 11-6. Lashings 1 through 8 installed on truck

**NOTE:** Pad all sharp edges that may touch the lashings.



Lashing Number	Tiedown Clevis Number	Instructions
9	5	Pass lashing:
10	5A	Through left rear lifting handle of trailer.
11	6	Through right rear lifting handle of trailer.
12	6A	Around suspension arm behind axle on right side.
13	12	Around suspension arm behind axle on left side.
14	12A	Through lunette.
15	13	Through lunette.
16	13A	Around suspension arm between shock absorber and axle on right side of trailer.
		Around suspension arm between shock absorber and axle on left side of trailer.

Figure 11-7. Lashings 9 through 16 installed on trailer

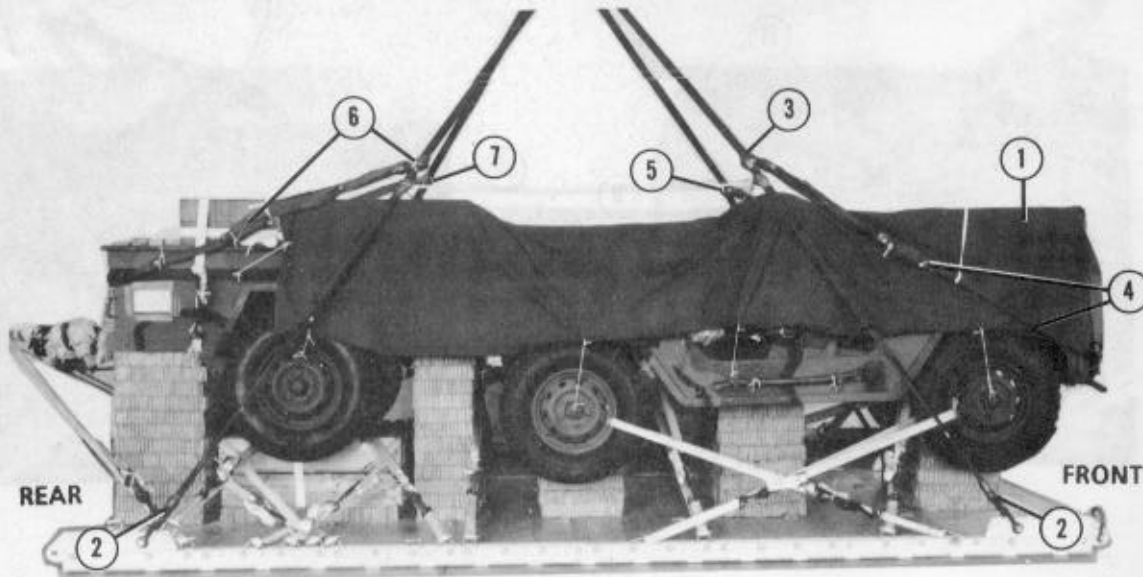
**11-9. Installing Load Cover**

Use a 6- by 16-foot piece of cotton duck cloth to cover the load. Tie the load cover on the load with type III nylon cord as shown in Figure 11-8.

**11-10. Installing and Safetying Antitumble Slings and Suspension Slings**

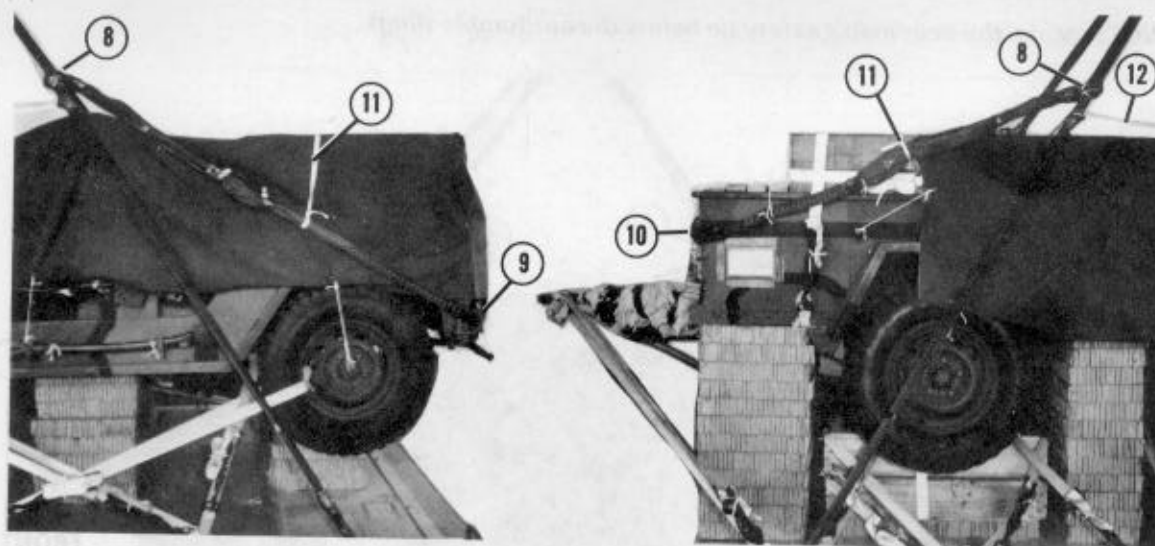
Install and safety antitumble slings and suspension slings according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-8.

**NOTE:** Make the deadman's safety tie below the antitumble slings.



- 1 Tie a 6- by 16-foot piece of cotton duck cloth over the load. Secure it to the wheels using type III nylon cord.
- 2 Attach a 12-foot (2-loop), type XXVI nylon sling (suspension sling) to each tandem link using a large clevis.
- 3 Pass the right front suspension sling through the loop of a 3-foot (2-loop), type XXVI nylon sling.
- 4 Attach a 16-foot (2-loop), type XXVI nylon sling to the 3-foot sling with a type IV link (with cover). Pass the free end of the 16-foot sling through the left rear lifting point of the truck, through the towing pintle, and through the right rear lifting point.
- 5 Pass the left front suspension sling through the loop of a 3-foot (2-loop), type XXVI nylon sling. Attach the 16-foot (2-loop), type XXVI nylon sling (step 4) to the 3-foot sling with a type IV link (with cover).
- 6 Pass the right rear suspension sling through the loop of a 3-foot sling. Attach a 12-foot (2-loop), type XXVI nylon sling to the 3-foot sling with a type IV link (with cover). Pass the 12-foot sling around the front of the trailer.
- 7 Pass the left rear suspension sling through the loop of the 12-foot sling.

Figure 11-8. Antitumble slings and suspension slings installed and safetied



- 8 Tie each antitumble sling at the point that the suspension sling passes through it. Pass a length of 1/2-inch tubular nylon webbing between the plies of the suspension sling below the antitumble sling. Pass both free ends of the tie behind the suspension sling, then back to the front of the sling. Cross the free ends over the antitumble sling, forming an X on the sling. Pass the free ends around the suspension sling and above the antitumble sling. Tie the ends on the top of the sling with a surgeon's knot and an overhand knot in the free ends. Tape the knots and antitumble sling in place. Repeat procedures at each antitumble sling.
- 9 Tie the front antitumble sling on each rear bumperette and each set of top bows with one length of 1/2-inch tubular nylon webbing.
- 10 Tie the rear antitumble sling to the trailer drawbar with two lengths of 1/2-inch tubular nylon webbing.
- 11 Safety the front and rear antitumble slings across the top of the load using two lengths of 1/2-inch tubular nylon webbing.
- 12 Install the deadman's tie using two lengths of 1/2-inch tubular nylon webbing. Install the tie even with the top of the load and as outlined in FM 10-500-2/TO 13C7-1-5.

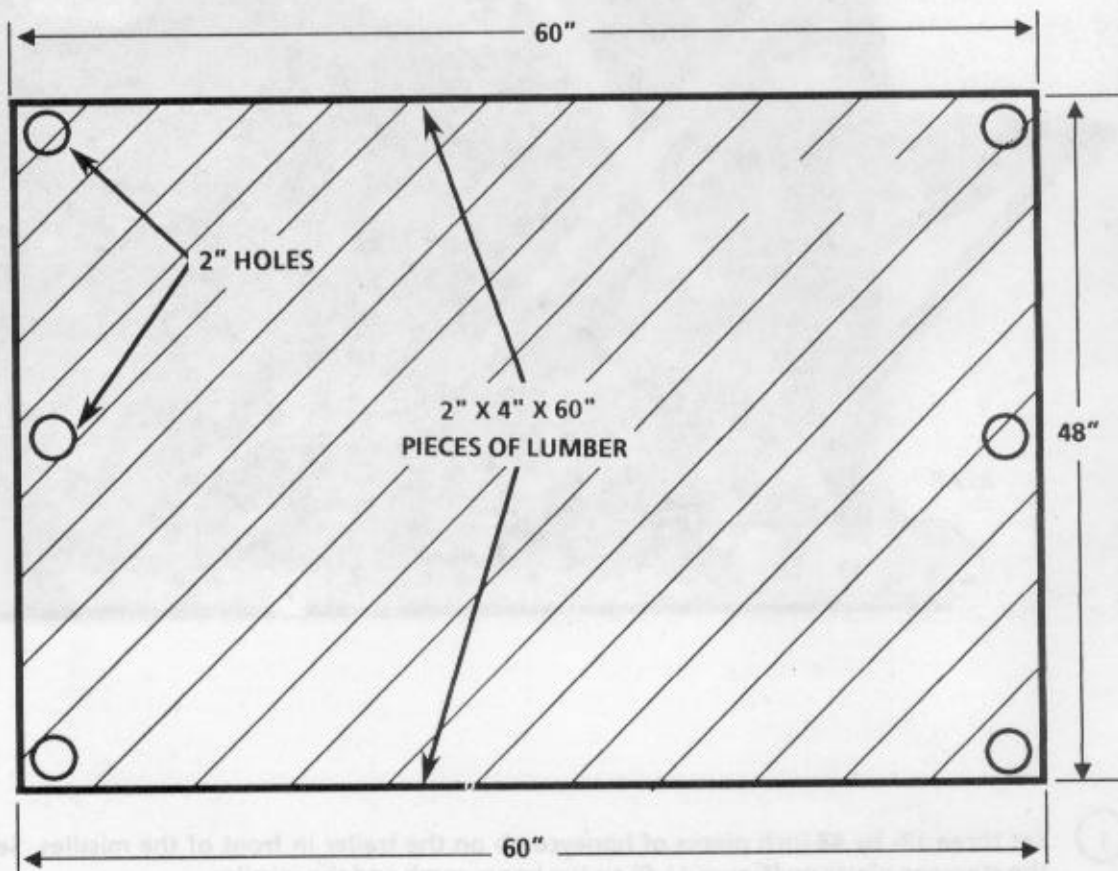
Figure 11-8. Antitumble slings and suspension slings installed and safetied (continued)



### 11-11. Stowing Cargo Parachutes

Build a parachute stowage platform as shown in Figure 11-9, and install it as shown in Figure 11-10. Prepare and stow two G-11A or two G-11B cargo parachutes as outlined in FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-11.

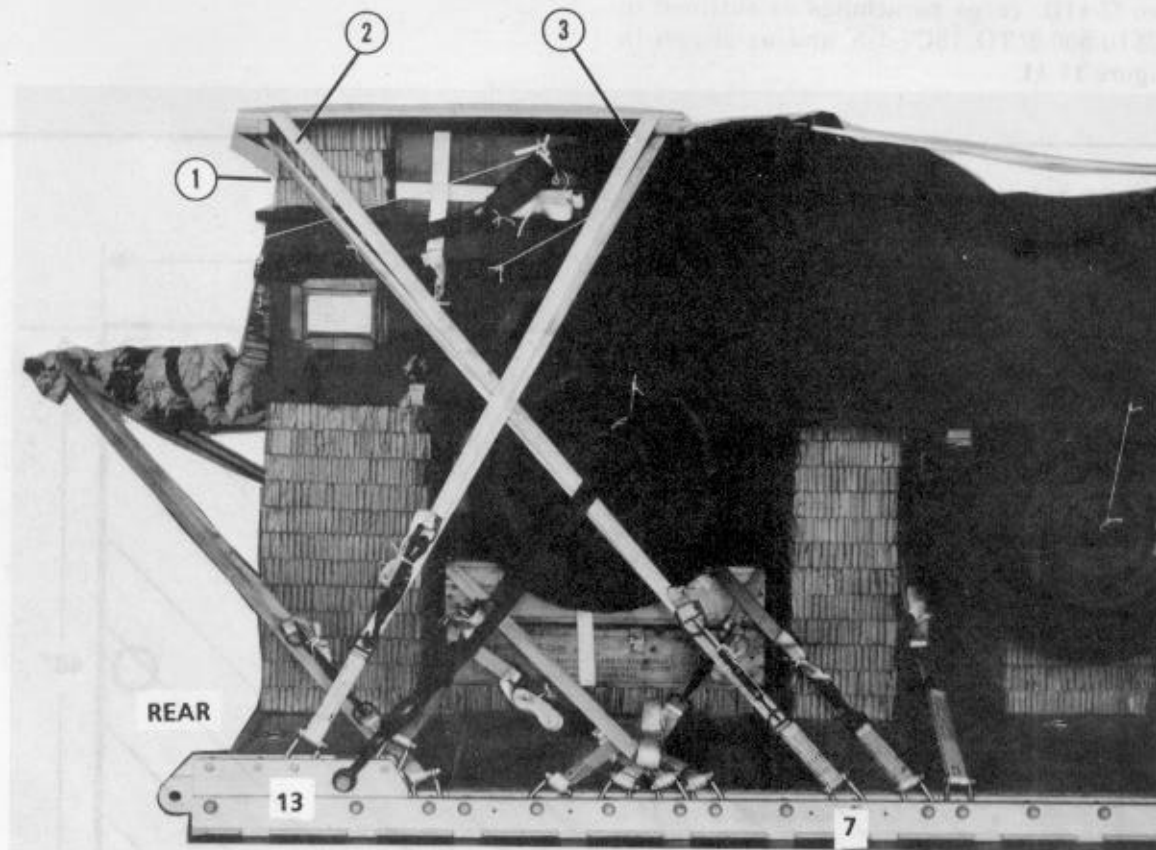
**NOTE:** This drawing is not drawn to scale.



- 1 Use one 3/4- by 48- by 60-inch piece of plywood and two 2- by 4- by 60-inch pieces of lumber to make a parachute stowage platform. Nail one piece of lumber to each 60-inch edge of the plywood using sixpenny nails. Make three 2-inch holes 3 inches from each 48-inch edge of the plywood.

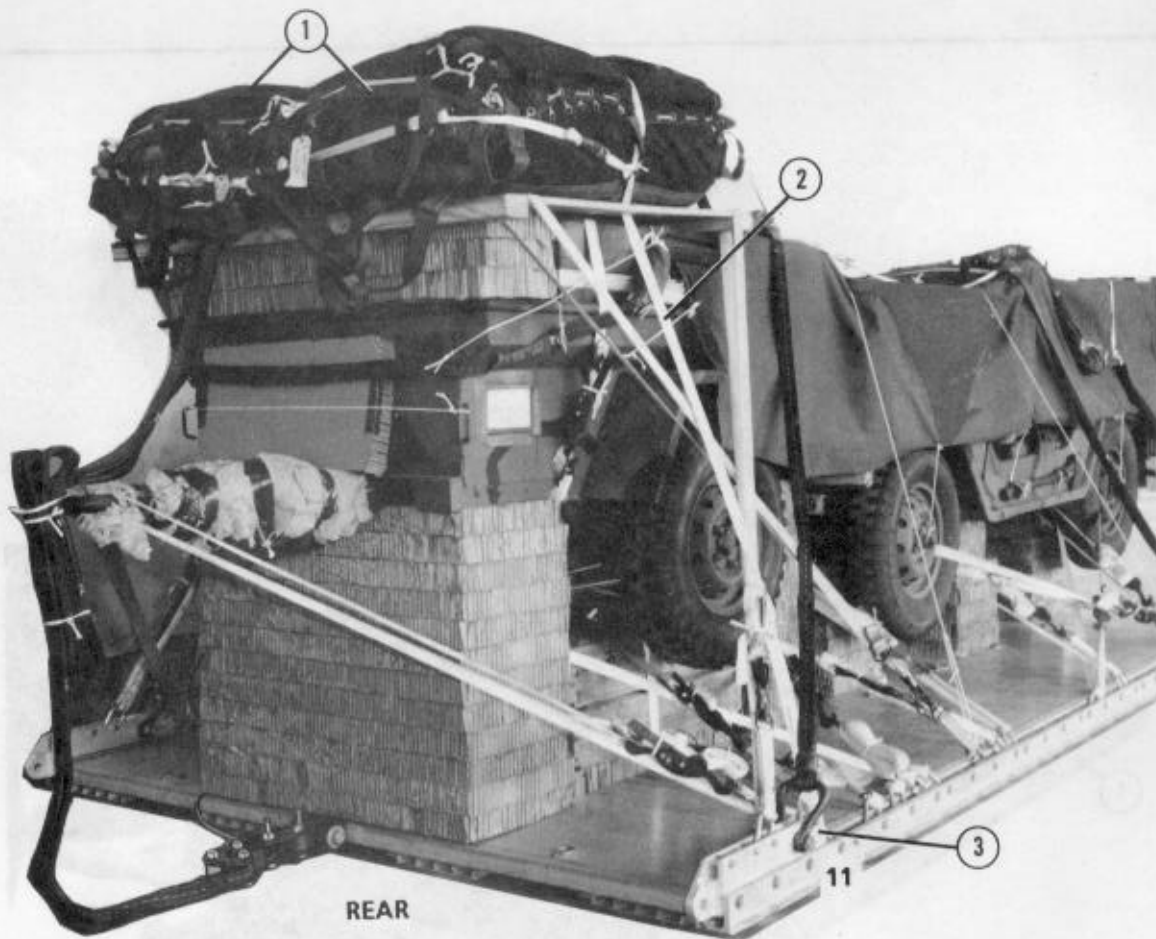
Figure 11-9. Parachute stowage platform constructed





- ① Set three 12- by 48-inch pieces of honeycomb on the trailer in front of the missiles. Set the stowage platform (Figure 11-9) on the honeycomb and the missiles.
- ② Use two tiedown assemblies. Lash the parachute stowage platform to the load by routing one tiedown assembly from clevis 7 through the left rear hole of the parachute stowage platform. Make sure the tiedown assembly is run under the suspension sling. Pass the other tiedown assembly from clevis 7A through the right rear hole of the stowage platform.
- ③ Run two more tiedown assemblies through the front holes of the parachute stowage platform and clevises 13 and 13A as in step 2.

Figure 11-10. Parachute stowage platform installed



- ① Place two G-11A or G-11B cargo parachutes on top of the parachute stowage platform.
- ② Run a 10-yard length of type VIII nylon webbing over the parachutes and through the two middle holes of the stowage platform to restrain the parachutes.
- ③ Tie the restraint strap to clevises 11 and 11A.

*Figure 11-11. Cargo parachutes stowed*

### 11-12. Installing Extraction System

Install the EFTC extraction system on this load according to FM10-500-2/TO 13C7-1-5 and as shown in Figure 11-12.

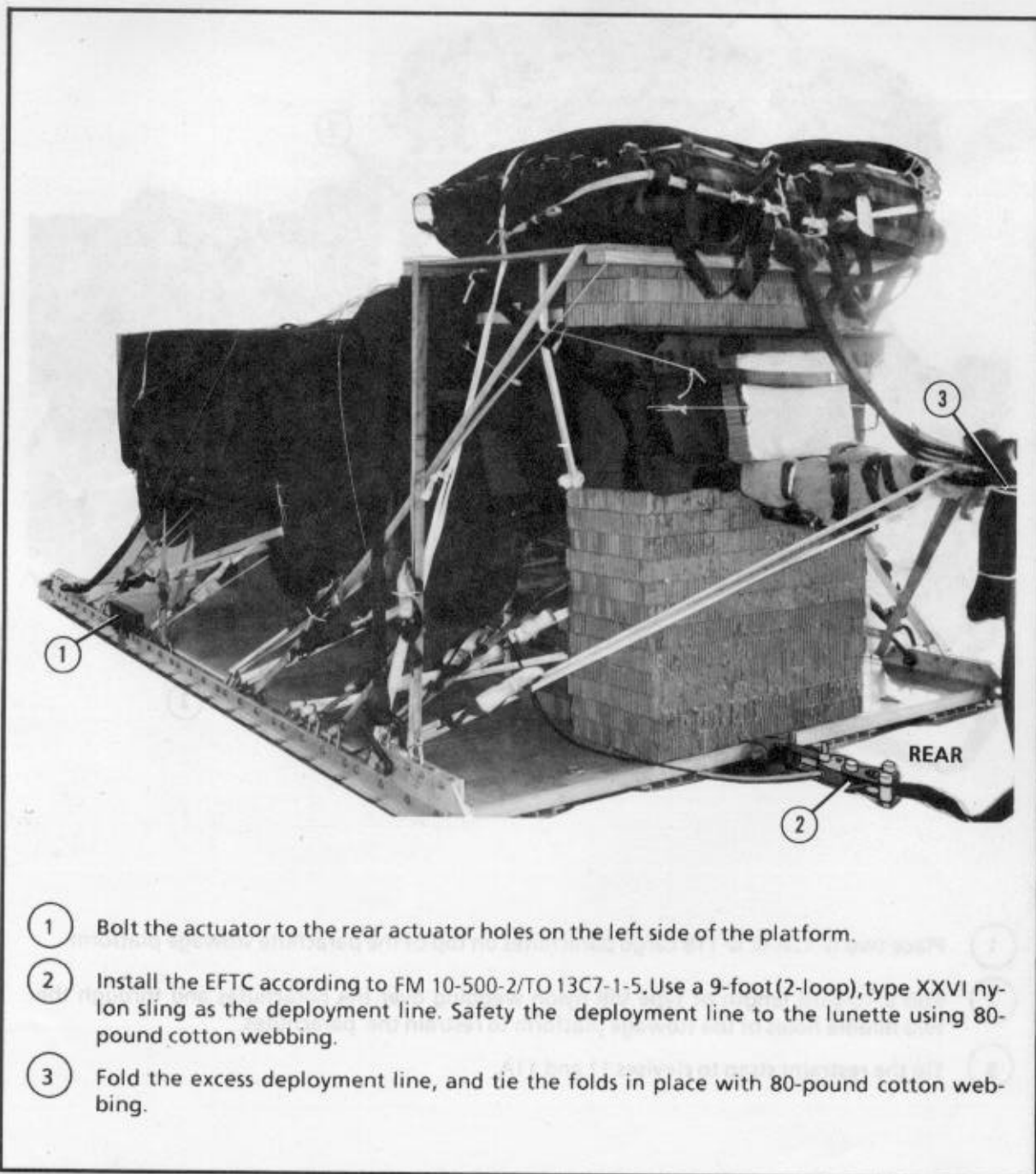
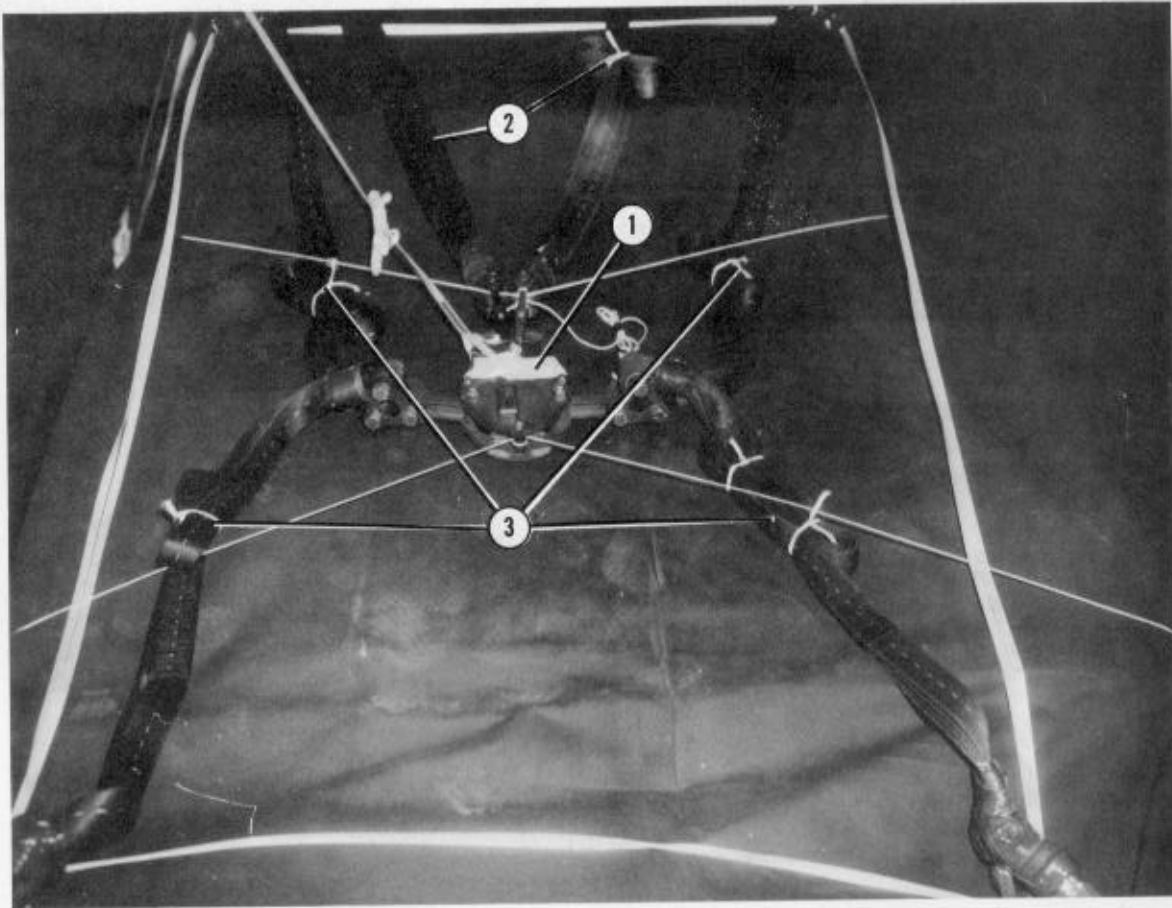


Figure 11-12. EFTC installed

**11-13. Installing Release System**

Prepare, attach, and safety an M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-13.



- ① Center the M-1 cargo parachute release on top of the load, and attach the parachute risers and suspension slings.
- ② Fold the excess parachute risers, and tie the folds in place.
- ③ Fold the excess suspension slings, and tie the folds in place with 80-pound cotton webbing.

*Figure 11-13. M-1 release system installed*

**11-14. Placing Extraction Parachute**

Place an extraction parachute on the load as described below.

a. **C-130 Aircraft.** Place an unreefed 15-foot cargo extraction parachute and a 60-foot (1-loop), type XXVI nylon webbing extraction line on the load for installation in the aircraft.

b. **C-141 Aircraft.** Place an unreefed 15-foot cargo extraction parachute with a 36-inch adapter web and a continuous 160-foot (1-loop), type XXVI nylon webbing extraction line on the load for installation in the aircraft.

**11-15. Installing Emergency Restraints**

Install a medium clevis in the front hole of each front tandem link for emergency restraint.

**11-16. Marking Rigged Load**

Mark the rigged load as outlined in FM 10-500-2/TO 13C7-1-5 and as shown in Figure 11-14. Complete DD Form 1387-2, and securely attach it to the load. Indicate on DD Form 1387-2 that the vehicle fuel tank and battery have been prepared according to AFR 71-4/TM 38-250. If the load varies from that shown, the weight, CB, and parachute requirements must be recomputed.

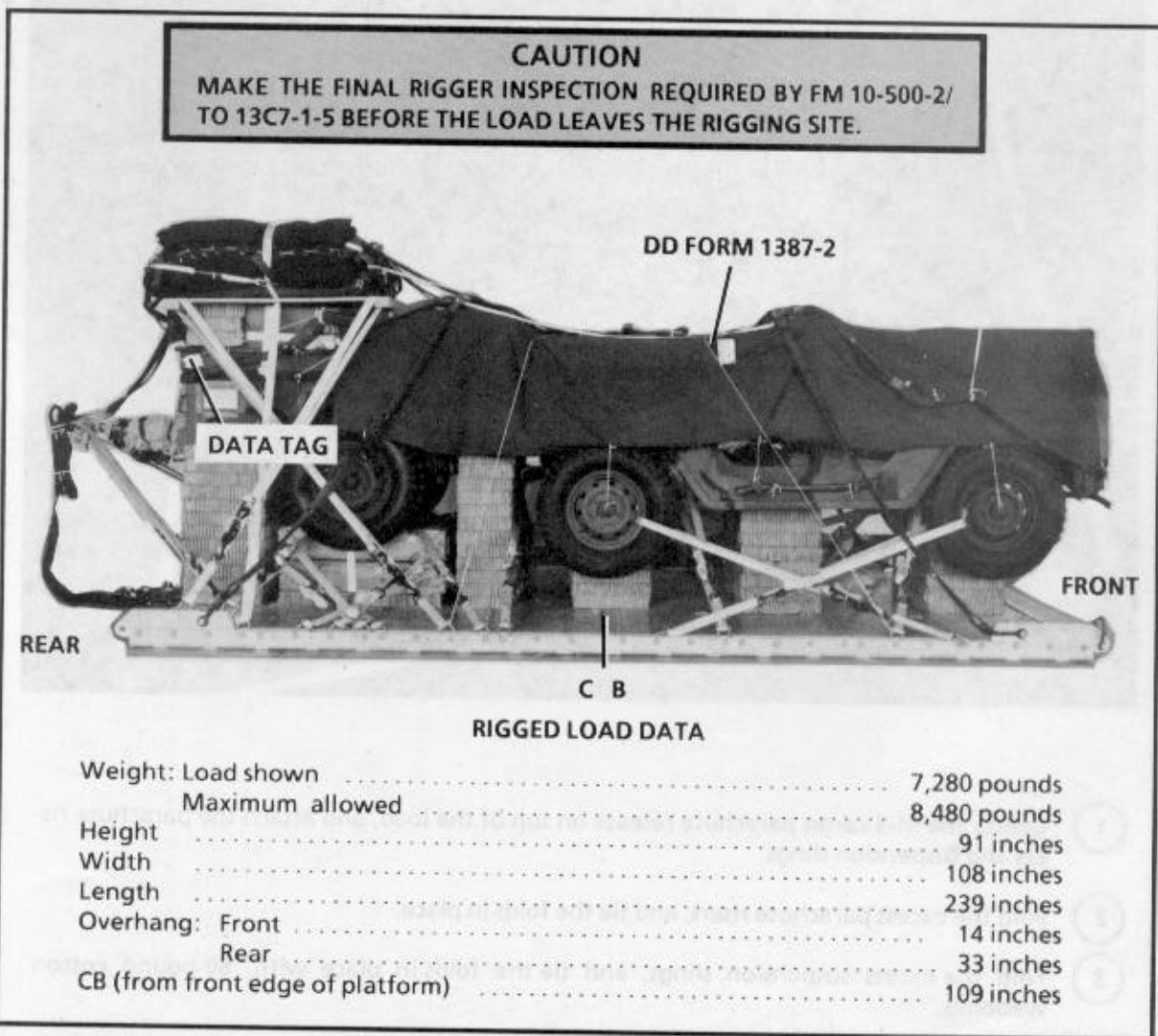


Figure 11-14. M151A2 truck and M416 trailer with accompanying load rigged for low-velocity airdrop on a type V platform



**11-17. Equipment Required**

Use the equipment listed in Table 11-1 to rig this load. This table also includes the equipment needed to stow the accompanying load of ammunition.

*Table 11-1. Equipment required for rigging the M151A2 truck and M416 trailer with accompanying load for low-velocity airdrop on a type V platform*

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
	Clevis, suspension:	
4030-00-360-0304	5/8-in (small)	4
4030-00-678-8562	3/4-in (medium)	2
4030-00-090-5354	1-in (large)	5
8305-00-242-3593	Cloth, cotton duck, 60-in	16 ft
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5783	Coupling, airdrop, extraction force transfer w 12-ft cable	1
1670-00-360-0329	Cover, link, type IV	1
1670-00-360-0328	Cover, clevis, large	2
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
5365-00-937-0147	D-ring, heavy-duty, 10,000-lb	33
8305-00-958-3685	Felt, 1/2- by 6- by 6-in	2
	Line, extraction:	
1670-01-064-4452	60-ft (1-loop), type XXVI nylon webbing (for C-130) or	1
1670-00-856-0265	60-ft (1-loop), type X nylon webbing (for C-130)	1
1670-01-107-7652	160-ft (1-loop), type XXVI nylon webbing (for C-141)	1
1670-00-783-5988	Link assembly, type IV (for extraction line)	1
1670-00-217-2421	Link, L-bar type	2
1670-00-753-3928	Pad, energy-dissipating, honeycomb,	
	3- by 36- by 96-in:	18 sheets
	4- by 26-in	(1)
	6- by 18-in	(6)
	11- by 57-in	(1)
	12- by 6-in	(4)
	12- by 18-in	(8)
	12- by 48-in	(3)
	12- by 57-in	(1)
	12- by 61-in	(1)
	14- by 24-in	(1)
	18- by 61-in	(4)
	24- by 61-in	(2)
	36- by 18-in	(14)
	36- by 36-in	(1)
	36- by 50-in	(1)
	36- by 57-in	(1)
	36- by 61-in	(2)

Table 11-1. Equipment required for rigging the M151A2 truck and M416 trailer with accompanying load for low-velocity airdrop on a type V platform (continued)

National Stock Number	Item	Quantity
	42- by 12-in	(12)
	42- by 18-in	(16)
	44- by 6-in	(1)
1670-01-183-2678	Panel, sling, extraction line	2
	Parachute,	
	Cargo:	
1670-00-269-1107	G-11A or	2
1670-01-016-7841	G-11B	2
	Cargo extraction:	
1670-00-052-1548	15-ft (unreefed)	1
	Platform, AD, type V, 16-ft:	
	Bracket:	
1670-01-162-2375	Inside EFTA	1
1670-01-162-2374	Outside EFTA	1
1670-01-162-2385	Bumper, nose	1
1670-01-162-2372	Clevis, load tiedown	28
1670-01-162-2376	Extraction bracket assembly	1
1670-01-162-2381	Tandem link	4
	Platform, parachute, stowage:	
5510-00-220-6146	Lumber, 2- by 4- by 60-in	2
5315-00-010-4659	Nail, steel wire, common, 8d	As required
5530-00-128-4981	Plywood, 3/4- by 48- by 60-in	1
5530-00-128-4981	Plywood, 3/4-in:	
	36- by 18-in	2
	36- by 70-in	1
	48- by 24-in	1
1670-01-097-8816	Release, cargo, parachute, M-1	1
	Sling, cargo, airdrop:	
1670-00-753-3788	3-ft (3-loop), type X nylon webbing or	2
1670-01-062-6301	3-ft (2-loop), type XXVI nylon webbing	2
1670-00-823-5041	12-ft (3-loop), type X nylon webbing or	5
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	5
1670-00-823-5042	16-ft (3-loop), type X nylon webbing or	2
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	2
1670-00-823-5043	20-ft (3-loop), type X nylon webbing or	2
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	2
1670-00-040-8219	Strap, parachute release, multicut comes w 3 knives	1
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tiedown assembly, 15-ft, 10,000-lb	33
	Webbing:	
8305-00-268-2411	Cotton, 80-lb	As required
8305-00-082-5752	Nylon, tubular, 1/2-in, 1,000-lb, natural	As required
8305-00-263-3591	Nylon, type VIII, 3,600-lb	10 yd